

Notice of Allowability

Application No.

10/527,291

Examiner

Dharti H. Patel

Applicant(s)

KUEHN ET AL.

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 09/26/2006.
2. ☒ The allowed claim(s) is/are 12 and 16-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

The following is an examiner's statement of reasons for indicating allowance of claims 12, 19 and 21: The prior art teaches a method for regulating current through an electromagnetic actuator, the electromagnetic actuator, a first switch and a current-measuring circuit forming a series circuit, a free-wheeling diode being parallel connected to the electromagnetic actuator, closing and opening the first switch by an automatic control; altering a time duration of one on and off switching cycle of the PWM signal; but does not disclose a signal, wherein for the dither function, a dither value is added to or subtracted from each pulse of the PWM signal, wherein a time duration during which the dither value is added to the pulses of the PWM signal is equal to a time duration during which the dither value is subtracted from the pulses, and wherein the time duration during which the dither value is added to the pulses and the time duration during which the dither value is subtracted from the pulses yield a total time duration which is a multiple of the time duration of one on and off switching cycle of the PWM signal. This feature in combination with the rest of the claim limitations is not anticipated or rendered obvious by the prior art of record.

The following is an examiner's statement of reasons for indicating allowance of claim 16: The prior art does not disclose altering a time duration of one on and off switching cycle of the PWM signal; and superimposing a dither function in a form of a low-frequency oscillation on the PWM signal, wherein the current flowing through the electromagnetic actuator and measured by the current-measuring circuit is freed from the dither function by a corrector. This feature in combination with the rest of the claim limitations is not anticipated or rendered obvious by the prior art of record.

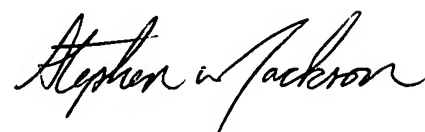
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DHP
11/30/2006



11-30-06
STEPHEN W. JACKSON
PRIMARY EXAMINER